FARMLAND MAPPING AND MONITORING PROGRAM

Rural Land Mapping Project

California's Changing Rural Landscape

The Farmland Mapping and Monitoring Program (FMMP), now in it's 20th year, documents land use conversion on nearly 45.9 million acres statewide, about 92% of California's privately owned land. While maps and statistics are updated biennially, trend data is now emerging.

Urban development has had the largest impact on agricultural land resources (right). An area larger than the size of Colusa County was urbanized during the 1984-2002 period. The broad miscellaneous category called Other Land (Other) also increased, and this type of conversion has accelerated in recent years.

Because of the diversity of uses within the Other category, the question of 'What is happening to California's farmland?' that FMMP was established to answer has only partially been addressed.

Farmland Mapping and Monitoring Program
1984-2002 Conversion Summary

	Total Change	Annual Average
	(acres)	
Irrigated Farmland	-360,841	-20,047
Dryland Farming and Grazing Land	-520,670	-28,926
Urban and Built-up Land	763,847	42,436
Other Land	102,345	5,686
Water (1)	15,319	851

(1) Water increase primarily due to construction of Diamond Valley Reservoir, Lake Sonoma, and Los Vaqueros Reservoir.

The Other Land Category and Land Use Trends

Other Land is one of the standard Important Farmland Map categories as defined by the US Department of Agriculture's Natural Resources Conservation Service (NRCS). California adopted the NRCS mapping definitions in 1982 as the basis of FMMP's monitoring effort. Other Land, defined at right, covers 30% of the FMMP survey area, and contains land uses that range from highly valuable agriculture (e.g. dairies, poultry houses) to low-density residential "ranchettes" to wildlife areas.

OTHER LAND:
Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than forty acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

The Other category does not provide sufficient detail to track changes such as the subdivision of farmland into large lot residences or the movement of farmland into ecological restoration areas. These conversions cause fragmentation in the farming landscape and may lead to restrictions on agricultural practices on the remaining land—further eroding agricultural viability. Conversely, agricultural uses may actually be intensifying when cropland is converted to Other Land, for example, as the dairy industry relocates to various locations in the state from southern California.

Four New Map Categories

The Rural Land Mapping Project represents an enhancement to the standard Important Farmland Maps, in which Other Land is divided in to four subcategories, as described below. Data will be available in standard and enhanced versions to best suit the needs of users.

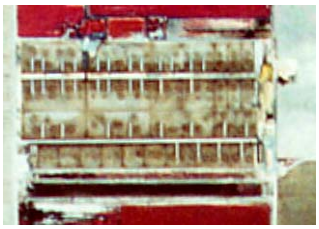
Rural Land Mapping categories are the primary land use distinctions within the Other class which can be readily distinguished with the imagery used to conduct FMMP mapping. The increased number of categories results in greater complexity in the database and in the map updating process, but updating is still reasonable to achieve relative to FMMP's two-year mapping interval.

Please note: these classes are not designed for interpretation as 'habitat'. Differences between the Vacant/Disturbed Land class and the Nonagricultural/Natural Vegetation class are a function of level of disturbance, relative location, and time period since disturbance occurred. Geographic data on the extent of habitat for various species may be available from other state and federal entities.

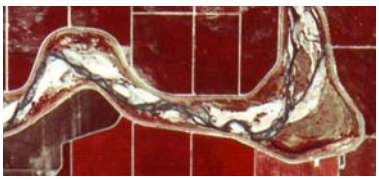
Rural Residential or Rural Commercial
Residential areas of between 1 and 6 structures per 10 acres ("ranchettes"), farmsteads, unpaved parking areas, small packing sheds, firewood lots, compost facilities, equine centers, and recreational water ski areas.

Vacant or Disturbed Land
Large units of open land within urban areas, rural freeway interchanges, mineral and oil extraction areas, mine tailings, borrow pits, irrigation ponds and canals, and formerly farmed lands which do not qualify for Grazing Land or Farmland of Local Importance.

Confined Animal Agriculture
Poultry facilities, feedlots, dairy facilities, fish farms - this use may be a component of Farmland of Local Importance in some counties.



Nonagricultural or Natural Vegetation
Heavily wooded, riparian, wetland, salt flat, barren or rocky natural areas, grassland areas which due to land management mandates do not allow grazing. Constructed wetlands are also included in this category.



San Joaquin Valley Pilot Counties

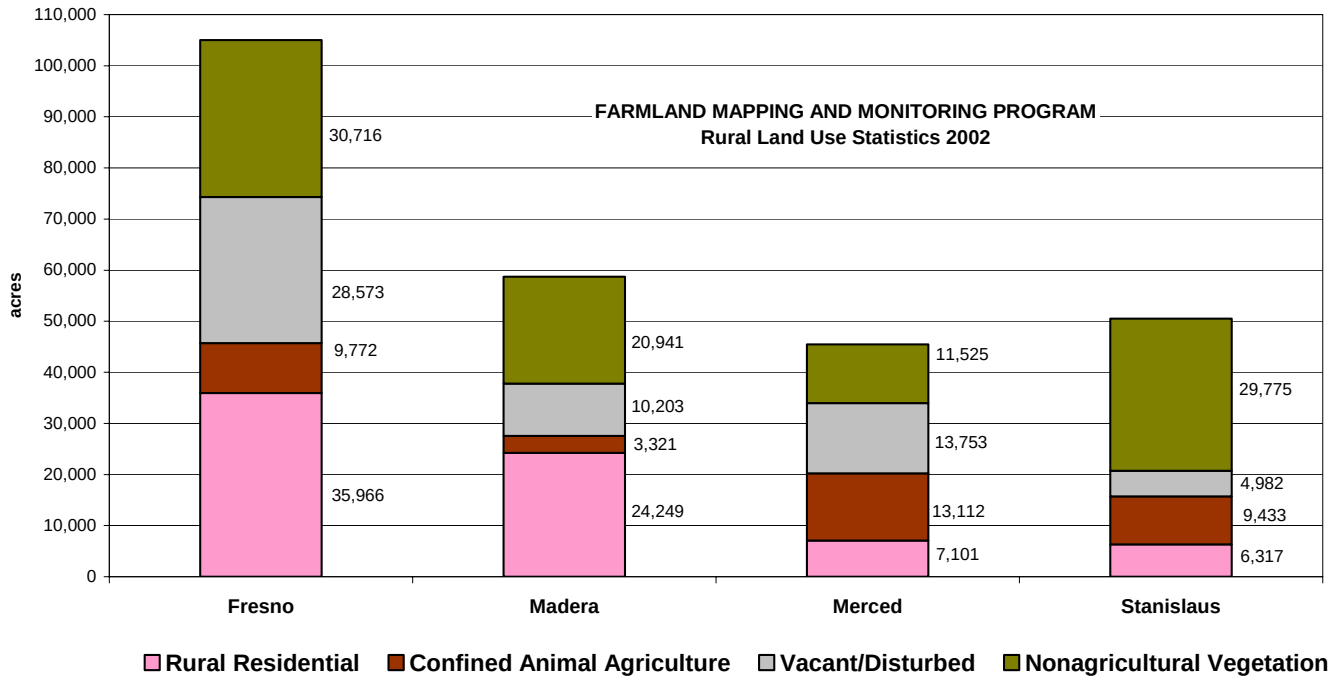
A four-county pilot effort, including Fresno, Madera, Merced, and Stanislaus counties, covers 12% of the FMMP study area. These counties were selected due to their strategic central valley location, agricultural importance (ranks 2, 5, 7, and 15 statewide) and divergent patterns of gross agricultural value despite their adjacency. Among the four counties, change in gross agricultural values between 2000 and 2001 varied from –13% (Madera) to +13% (Stanislaus).

During the pilot phase, database structure and criteria were established, while the process was monitored to document resource needs for potential statewide application. Additional counties may be enhanced with Rural Land data as funding becomes available.

Mapping enhancements were made starting with the 2002 edition of the four counties. Rural Land Mapping statistics will be reported separately from the standard conversion tables published by FMMP.

Data Summary

The distribution of rural land uses in the adjacent pilot counties illustrates the lack of homogeneity in the Other Land class (below). Landscape characteristics, administrative boundaries, and infrastructure affect where the rural land use categories occur.



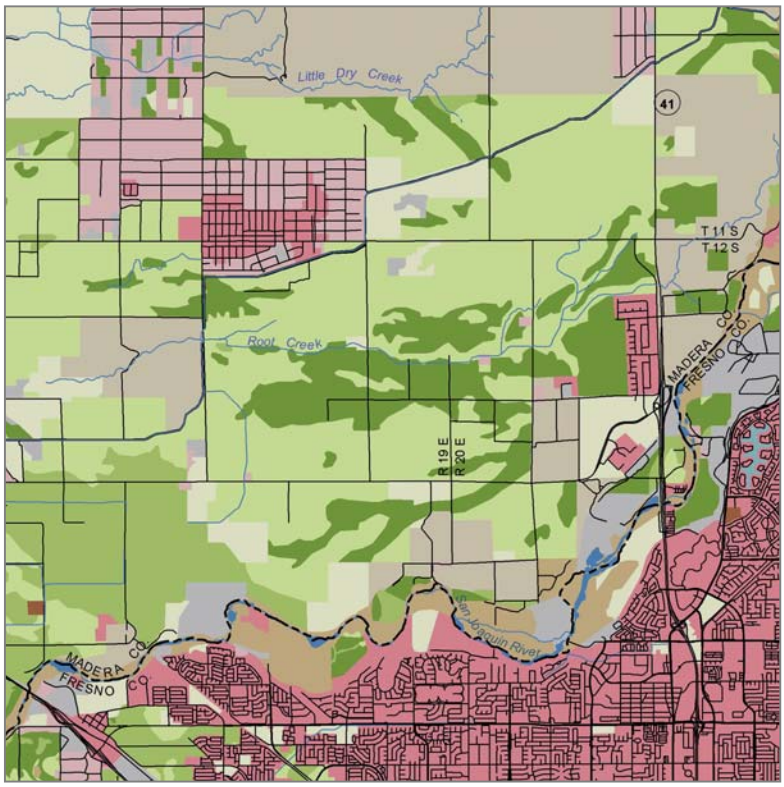
Geography combines with administrative factors in the distribution of Nonagricultural Vegetation, primarily in the form of riparian channels along the San Joaquin River, its tributaries, and designated refuge areas. Although some refuges allow seasonal grazing, the specific units in this category prohibit grazing uses. FMMP updates refuge grazing status information on a cyclic basis. In addition, higher elevation zones, such as in Fresno County, exhibit slope and forest conditions not suited to grazing uses. The study area does not include National Forest land in eastern Fresno and Madera counties.

Proximity to processing facilities such as Hershey Chocolate (Oakdale), Hilmar Cheese, and Foster Farms (Turlock and Livingston) likely contributes to the greater concentration of Confined Animal Agriculture in Merced and Stanislaus counties. These counties rank in second and third place for dairy income in California, which in turn is the top dairy state in the country.

Vacant or Disturbed areas exhibit the impacts of all three factors—examples include riverside gravel operations, historic mine tailings, valley aquaducts, and undeveloped land adjacent to cities such as Madera. Specific vacant land units may represent opportunities for accommodating projected population increases.

Rural subdivisions are most common to the north and east of existing cities, coming in two forms. At the base of the foothills, where irrigated and grazing uses meet, blocks of these subdivisions exist in one to five square mile units. This is particularly true of Madera and Fresno counties. More irregular configurations of low-density residential occur at higher elevations as Highways 41 and 168 lead in to the Sierra.

The graphic below shows the distribution of various map categories along the San Joaquin River as they appear on the enhanced Rural Land map product. The site is at the boundary of Madera and Fresno counties, an area of significant activity in planning for open space, agriculture, recreation, and community development.



The San Joaquin River is bordered by Urban Land (dark pink), Nonagricultural Vegetation (light brown), Disturbed Land (gray), and irrigated agriculture (shades of green). Grazing Land (pale beige) occupies sections in the northern half of the image and along the river. Rural Residential Land (pale pink) occurs at the irrigated/grazing interface.

This summary is restricted to the largest examples in the four counties, and provides a snapshot of 2002 rural land conditions relative to urban and agricultural uses. How these uses change in response to population growth and competition for land will impact the quality of life for residents of each county, and ultimately California as a whole. Planning decisions associated with rural land uses may play a role in the long-term viability of agriculture as they have at the urban-agriculture interface.

Questions? Comments?

The Farmland Mapping and Monitoring Program is committed to reporting on the status of agricultural land resources in California and the factors affecting them. The Rural Land Mapping pilot project was undertaken in response to concerns from data users about information gaps in the existing system.

With a pilot effort in place, FMMP wants to hear from you: Is the information valuable? Are there additional categories of interest? Would this be a worthwhile project for statewide analysis?

Please contact us to obtain county or custom-scale maps, and send us your thoughts and ideas.

Contact Information

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